CLAIMS

What is claimed is:

1. A keyboard video mouse (KVM) switch for a plurality of computers to share a plurality of manipulating devices with different connection agreements, the KVM switch comprising:

a plurality of first interfaces connected to the manipulating device to receive a plurality of first electrical signals, where each of the electrical signals complies with the connection agreement of its source manipulating device and each of the first interfaces has a first converting device to convert the first electrical signals into a standard packet;

a switch device, which arranges the routing of the standard packet between the manipulating devices and the computers according to a path selection setting; and

a plurality of second interfaces connected to the computers, where each of the second interfaces has a second converting device to convert the standard packet received by the switch device into a second electrical signal complying with the connection agreement of the connected computer.

2. The KVM switch of claim 1, wherein each of the electrical signals is selected from the group comprising a keyboard signal and a mouse signal.

3. The KVM switch of claim 1, when the KVM switch allows a plurality of local and remote computers to share a plurality of local manipulating devices, further comprising:

a packet encoding device, which generates according to the standard packet at least one network packet with a plurality of data sections correspondingly storing the standard packets of the first interfaces;

a network device, which establishes communications with the network device of another KVM switch using a network protocol for transmitting/receiving the network packet to/from another KVM switch; and

a packet decoding device, which decodes the network packet transmitted from another KVM switch to obtain at least one remote standard packet.

4. The KVM switch of claim 3, wherein the network packet further has a network overhead section.

5. The KVM switch of claim 3, wherein the packet encoding device contains a CPU.

6. The KVM switch of claim 3, wherein the packet decoding device contains a CPU.

7. The KVM switch of claim 3, wherein the network device contains:

a network interface chip (NIC), which connects to the packet encoding device and the packet decoding device; and

a network switch, which has a first port, a second port, and a third port, where the first port connects to the NIC and one of the second port and the third port connects to another KVM switch.

8. The KVM switch of claim 7, wherein the network device further contains a 2-way switch connected to the second port for selecting between an Ethernet and another KVM switch.

9. The KVM switch of claim 1, wherein the first interfaces contain a plurality of universal asynchronous receivers/transmitters (UART's), a half-duplex communication processor, and a CPU.

10. The KVM switch of claim 1, wherein the second interfaces contain a plurality of universal asynchronous receivers/transmitters (UART's), a half-duplex communication

processor, and a CPU.

11. The KVM switch of claim 1, wherein the switch device contains a CPU.

12. A computer switching method for a plurality of computers to share a plurality of manipulating devices with different connection agreements, the method comprising the steps of:

receiving first electrical signals of the manipulating devices, each of the first electrical signals complying with the connection agreement of its source manipulating device;

converting each of the first electrical signals into a standard packet;

routing the standard packets between the manipulating devices and the computers; and

converting each of the standard packets into a second electrical signal complying with the connection agreement of the computer of its path destination.

13. The method of claim 12, wherein each of the first electrical signals is selected from the group comprising a keyboard signal and a mouse signal.

14. The method of claim 12, wherein each of the first electrical signals is converted to the standard packet using a CPU.

15. The method of claim 12, wherein each of the standard packets is converted to the second electrical signal using a CPU.

16. The method of claim 12, wherein the paths of the standard packets are switched by a CPU according to a path selection setting.

17. The method of claim 12, when a plurality of local and remote computers shares a plurality of local manipulating devices, further comprising the steps of:

distributing the standard packets, wherein the standard packets are transmitted to the corresponding local computers when the path destinations of the standard packets are the local computers whereas at least one network packet with a plurality of data sections correspondingly storing the standard packets is generated according to the standard packets when the path destinations thereof are the remote computers;

establishing communications among the KVM switches using a network protocol for transmitting/receiving the network packet to/from another KVM switch;

decoding the network packet transmitted from another KVM switch to obtain at least one remote standard packet; and

converting the remote standard packet into the second electrical signal complying with the connection agreement of the local computer of its path destination.

18. The method of claim 17, wherein the network packet has a network overhead section.

19. The method of claim 17, wherein the standard packets are encoded in a single network packet when the path destinations of the standard packets are the remote computers connected to a same remote KVM switch.

20. The method of claim 17, wherein the communications among the KVM switches are established using a network interface chip (NIC) and a network switch configured for each of the KVM switches.

21. The method of claim 17, wherein the network packet is encoded and decoded using a CPU.